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ABSTRACT

A study discusses the effects of a second year of one-on-one intervention on the literacy development of struggling second graders. Twenty-six children participated in the study and were assigned to either a second year of intervention or a control group that received no further intervention services. Participants in the intervention group attended 45-minute tutorials from October through May of the school year. Lessons include reading for fluency, word study instruction, and integrated reading and writing instruction. On all outcome measures, the intervention group means were higher than the control group means, although statistical tests did not yield significant differences between the groups. Additionally, all of the children in the treatment group were reading on or above grade level by the second year of intervention. The findings from this study suggest that many children identified as struggling readers early in their school careers may need at least two years of intense intervention to achieve grade level expectations. An appendix provides a sample lesson plan. (Contains 3 tables of data and 42 references.) (PM)

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A Second Year of One-on-One Tutoring

AN INTERVENTION FOR SECOND GRADERS WITH READING DIFFICULTIES

CIERA REPORT #3-019

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CIERA Inquiry 3: Policy and Profession
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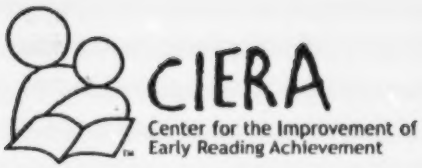

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A Second Year of One-on-One Tutoring: An Intervention for Second Graders With Reading Difficulties

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In August 1996, President Clinton issued the American Reads Challenge to the American public to help all children learn to read independently and well by the end of third grade (U.S. Department of Education, 1997). A fundamental part of the America Reads Challenge was the creation of America's Reading Corps, a legion of tutors and reading specialists who would work together to provide additional instruction for struggling readers. The Challenge called for the creation of more after-school, weekend, and summer learning opportunities to supplement quality classroom instruction in reading. To achieve this goal, President Clinton called for bipartisan support, substantial funding, and massive human resources. The government asked for 30,000 reading specialists and one million reading tutors, including AmeriCorps members, college students, and other community service volunteers, to join the initiative (Clinton, 1996).

Although several versions of the primary legislation were debated in Congress for another two years, one part of the initiative received immediate funding and support. Three months after the America Reads Challenge was first introduced, President Clinton signed the 1997 Appropriations (PL 104-28) that increased Federal Work Study (FWS) funding from $616.5 million to $830 million, creating an additional 187,000 jobs for college students. The administration proposed that 100,000 of these new FWS positions be given to students who would participate in the America Reads Challenge by serving as reading tutors of young children. As a further incentive for higher education institutions to commit to the project, former Education Secretary Richard Riley issued a waiver of the 25% matching requirement for institutions who employed students as reading tutors. More than 1,000 colleges and universities joined the America Reads FWS program in its first year, 1997–98.

Politicians, educators, and others have argued that the most efficient way for schools to meet children's literacy needs is with effective classroom reading instruction. Certainly, exemplary classroom instruction is the first line of defense (Snow, Burns, & Griffin, 1998). Some children, however, need addi-

tional support beyond what even the most knowledgeable and talented teacher can provide. In Juel's (1996) qualitative analysis of 15 successful tutoring dyads, she found that the key to reaching a struggling child was to provide "verbal interactions, instructions, and written materials that were on the right level and at the right time" (p. 288)—a task that may be difficult to accomplish in a classroom context. Based on their extensive research in the area of preventing and remediating reading disabilities, Torgesen and Hecht (1996) concur: "[I]t may indeed be the case that the only way to provide opportunities for some children to acquire normal reading skills is to provide one-on-one instruction over a significant period of time" (p. 153).

Several studies and reviews of the literature support the efficacy of one-on-one literacy interventions (Bloom, 1984; Cohen, Kulik, & Kulik, 1982; Deford, Lyons, & Pinnell, 1991; Glass, Cahen, Smith, & Filby, 1982; Invernizzi, Rosemary, Juel, & Richards, 1997; Iversen & Tunmer, 1993; Juel, 1996; Morris, Shaw, & Perney, 1990; Wallach & Wallach, 1976; Wasik, 1998a; Wasik & Slavin, 1993). Well-researched programs such as Reading Recovery (Clay, 1985; Deford et al., 1991) and Success for All (Slavin, Madden, Dolan, & Wasik, 1996) demonstrate substantial positive effects for students individually tutored by a trained professional. While experienced teachers specifically trained in early literacy intervention should be the primary resource for intervention, supervised volunteer tutors can also be a valuable resource in our schools, particularly when instructional decisions are made by knowledgeable, professional teachers who supervise the tutorials (Burns, Griffin, & Snow, 1999; Invernizzi et al., 1997; Morris, 1999; Shanahan, 1998).

In her comprehensive review of volunteer tutoring programs, Wasik (1998b) listed several critical components found in successful tutoring programs—those that use trained professionals as well as those that use volunteers. Paramount among these is the presence of a reading specialist who serves as a coordinator of the program. It is the coordinator's supervision of tutors and the ongoing training and support he or she gives them that enable the tutor to positively affect the child's reading development. Another important feature of effective tutoring programs lies in the structure of the sessions themselves and the common elements they contain: reading familiar materials, phonics instruction, writing, and reading new books.

One such volunteer tutoring program, Book Buddies, has evolved in the Charlottesville city schools since 1992. Reading researchers at the University of Virginia (UVA), in conjunction with the local school district, developed Book Buddies as one part of the district's goal to meet the needs of the growing number of children requiring supplemental literacy instruction (Invernizzi, Juel, & Rosemary, 1996; Invernizzi et al., 1997). Book Buddies targets children who have difficulty learning to read with supervised tutorials provided by community volunteers. At each school, Book Buddies coordinators, who are current or former graduate students in reading at UVA, supervise 15 tutoring pairs. Their responsibilities include assessing students, training community volunteers, writing individualized lesson plans, and supervising tutorials. The program operates in all six elementary schools, providing approximately 130 first graders with nine months of individualized tutoring each year.

The data from the first three Book Buddies cohorts ($N = 358$), who were primarily first graders from the bottom quartile of each school's Title I referral list, yielded positive results (Invernizzi et al., 1996; Invernizzi et al., 1997).

Eighty-six percent of the children in the program reached the criterion established by the district for successful first grade reading with over 90% word recognition (Invernizzi et al., 1997). The average effect size on word recognition was +1.12 for the first three years of the program and +1.29 for the third year (Invernizzi et al., 1997). These results show that one year of closely supervised intervention delivered by community volunteers can have a positive impact on children's literacy development.

No matter how intensive early intervention efforts are, one year of services will not be enough to ensure academic success for some children (Goldenberg, 1994; Hiebert, 1994; Jason et al., 1995; Morris, 1999; Vellutino et al., 1996; Wasik & Slavin, 1993). In her study of at-risk children tutored by university athletes, Juel (1996) found that many of the children who received only one year of tutoring failed to meet grade-level expectations in reading. When these students were offered an additional year of one-on-one instruction in second grade, however, they demonstrated substantial gains in reading. Unfortunately, second-grade struggling readers typically do not receive the intensive and consistent one-on-one instruction that first-grade struggling readers receive (Morris, 1999).

Recognizing that some children will need intensive support beyond first grade, Book Buddies has served a small number of retained first graders and second graders who are behind in reading. To better meet the needs of this population, we expanded the program in 1997–98 by creating Book Buddies II. In this report, we describe the effects of Book Buddies II on the literacy development of struggling second graders.

Method

Participants

In 1997, two schools were selected to pilot a second-grade extension of Book Buddies (Book Buddies II) using community volunteers and FWS graduate students. Second graders selected for the study participated in the first-grade Book Buddies program but did not achieve first-grade expectations on measures of contextual and word list reading by the end of the school year. The majority of these students read instructionally at a primer level as measured by the Wide Range Achievement Test-Revised (WRAT-R; Jastak, 1984) and the Qualitative Reading Inventory-II (QRI-II; Leslie & Caldwell, 1995).

Twenty-six second graders (14 males, 12 females) attending two Charlottesville, Virginia public elementary schools participated in the study. Students' ages ranged from six years, 11 months to eight years, 2 months, with a mean age of seven years, 2 months. The participants included 54% minorities, with 69% of the participants qualifying for free or reduced lunch. In addition to regular language arts instruction, 31% of the students received Title I services in small groups, and an additional 31% received Speech and Language

Services. One child had been retained in first grade. School attendance averaged 96% (see Table 1).

Table 1: Demographic Information on Book Buddies II

Variable	Book Buddies II	Control Group	Total
Total	13	13	26
Age			
Mean	7.04	6.99	7.01
Range	6 years 11 months–8 years 2 months	6 years 11 months–7 years 10 months	6 years 11 months–8 years 2 months
Gender			
Female	6 (46%)	6 (46%)	12 (46%)
Male	7 (54%)	7 (54%)	14 (54%)
Ethnicitiy			
African American	6 (46%)	7 (54%)	13 (50%)
Caucasian	6 (46%)	6 (46%)	12 (46%)
Hispanic	1 (8%)		1 (4%)
Linch			
Free/Reduced	9 (69%)	9 (69%)	18 (69%)
No	4 (31%)	4 (31%)	8 (31%)
Attendance			
Missed 0–5 days	5 (39%)	9 (69%)	14 (54%)
Missed 6–10 days	4 (31%)	2 (15%)	6 (23%)
Missed 10+ days	4 (31%)	2 (15%)	6 (23%)
Special services			
Title I	5 (39%)	3 (23%)	8 (31%)
Other services	2 (15%)	2 (15%)	4 (15%)
Speech and language	1 (8%)	3 (23%)	4 (15%)
None	5 (39%)	5 (39%)	10 (39%)

The 26 participants were matched according to their end-of-year performance on the Reading subtest from the WRAT-R and were split into two groups. Thirteen students were assigned to a treatment group consisting of regular language arts instruction plus Book Buddies II. The other 13 students received regular language arts instruction only and comprised the control group. The school system did not direct any of the teachers to use a mandated program or curriculum. The teachers of both groups commonly used predictable /patterned books as opposed to a basal reading series, some type of directed phonics instruction, and regular opportunities for writing and teacher read-alouds. Both groups were comparable on ethnicity, gender, free lunch, and other services. Within the treatment group, eight received the intervention after school, and five received it during school. Treatment groups in both locations received the tutoring in addition to their regular language arts instruction.

Random assignment to treatment or control groups was not possible, as second grade teachers and principals influenced the assignment of students to intervention. Children assigned to the treatment group were perceived as

needier by their classroom teachers even though their end of year WRAT-R scores were the same as the matched control. Teacher and principal decisions were based on intangible, subjective perceptions about the children's history of behavioral problems, perceived family support or lack thereof, and the children's achievement in other academic subjects. Despite the lack of random assignment, Table 2 indicates that t-tests of pretest measures yielded no statistical differences between the two groups.

Table 2: Pretest Measures

Measures	Group	*N*	*M*	*SD*	*t*	*df*	Sig. (2-tailed)
Letter Identification	treatment control	13 13	25.92 26.00	.28 .00	-1.00	24	.33
Letter Sounds	treatment control	13 13	25.46 25.54	.66 97	-.24	24	.82
Spelling	treatment control	13 13	47.31 45.92	2.69 3.62	1.11	24	.28
Medial Vowel Sorting	treatment control	13 13	11.08 10.23	1.89 1.42	1.29	24	.21
Word Identification—Preprimer	treatment control	13 13	19.85 19.62	.38 .96	.81	24	.43
Word Identification—Primer	treatment control	13 13	14.54 11.85	2.82 5.34	1.61	24	.12
Word Identification—1st	treatment control	13 13	5.23 4.70	6.04 6.53	.20	21	.84
WRAT-R	treatment control	13 13	16.31 15.15	5.94 4.45	.56	24	.58
Passage Reading—Primer	treatment control	13 13	73.08 69.54	2.32 6.02	1.98	24	.07

Eight graduate students pursuing master's degrees or doctorates in reading education and five community volunteers tutored in the Book Buddies II program throughout the school year. During the fall, the graduate students learned how to tutor as part of a requirement for two UVA graduate-level reading courses (Reading Diagnosis and Remedial Reading Techniques) and were supervised by the professor and teaching assistant, who were experienced Book Buddies coordinators. In the spring, the graduate students continued to tutor under the supervision of a Book Buddies II coordinator and received FWS funds for their services as part of the America Reads Challenge.

Measures

Students were given a battery of individually administered assessments. These included informal measures as well as the WRAT-R. The battery was administered at the end of first grade and at the end of second grade. Book Buddies II coordinators and trained graduate students administered the assessment, which lasted approximately 45 minutes.

Informal Literacy Measures

This assessment measured the following components of literacy development: (a) alphabet knowledge (letter recognition, letter sounds, and letter production); (b) phoneme-grapheme knowledge (medial vowel sound sort and spelling inventory); (c) word recognition in isolation using graded word lists; and (d) word recognition in context using three passages.

The letter recognition task and the letter-sounds task included a list of 26 lower-case letters presented in random order. On the letter recognition task, the student named each letter and received one point for each letter identified correctly. The student said the sound for each letter and received one point for each correctly identified sound on the letter-sounds task. On the letter production task, the student wrote the letters as the tester dictated them. Testers accepted either upper case or lower-case letters and gave one point for each correctly produced letter. Reversals were not counted as errors.

The medial vowel sound sort included 4 picture headings, 4 practice items, and 12 test items. After modeling the activity with 4 practice items, the tester asked the student to put each test item under the picture with the same vowel sound in the middle. Each item was removed after the child completed it. The tester gave one point for each picture sorted correctly.

The spelling inventory included 1 practice item and 12 test items. The words contained common short and long vowel patterns and blends and digraphs. The student wrote the words as the tester dictated them and received one point for each phoneme correctly or logically represented. One additional point was given for the correct spelling of each word.

The word recognition in isolation task consisted of five graded word lists. The words on the lists came from basal reading series. The lists increased in difficulty from preprimer to third grade, and consisted of 20 words each. The examiner administered the preprimer list and continued with subsequent lists if the student scored 15 or higher. The student received one point for each word read correctly.

The word recognition in context task included passages ranging from preprimer to third grade. The narrative preprimer and primer passages used were *My Hamster Van* (Ready Readers, 1996) and *Little Bear* (Minarik, 1957). The examiner accepted 90% or higher as instructional level and the administration of subsequent passages ended when the student dropped below this instructional level on a passage. When students reached the primer level and above, graded passages from the QRI-II were used to measure the students' ability to decode and comprehend expository texts. Before reading each passage, the students were asked questions to activate their prior knowledge of the topic. Next, they read the story orally and received one point for each word read correctly. The examiner scored substitutions, insertions, omissions, reversals, and teacher assistance as errors and self-corrections as correct.

At the conclusion of the passage, the students answered several comprehension questions.

Wide Range Achievement Test-Revised

Students' word recognition was evaluated using the Reading subtest from the WRAT-R (Jastak & Wilkinson, 1984). This task requires the child to recognize and name letters and read a list of words that increase in difficulty. The WRAT-R provides norm-referenced standard scores based on age.

Procedures

The second graders who participated in the intervention received one-on-one tutoring twice a week for 45 minutes beginning in October and ending in May. Tutors used a structured three-part lesson plan that included reading for fluency, word study, and integrated reading and writing instruction. This lesson plan was an adaptation of the early reader plan found in the Book Buddies manual (Johnston, Invernizzi, & Juel, 1998). An example of the Book Buddies II lesson plan is located in Appendix A.

The focus on reading for fluency was to increase the children's reading speed, expression, and confidence in independent-level texts (Samuels, 1979; Samuels, Schermer, & Reinking, 1992). This part of the lesson lasted approximately 5–10 minutes. Typical tasks included oral repeated readings of familiar or independent-level books, oral and silent timed repeated readings, taped readings, and poetry readings. Materials for these tasks included trade books, poetry, and narrative and expository books from published reading series.

The word study section focused on teaching students letter-sound relationships and a sequence of word patterns based on developmental spelling theory (Bear, Invernizzi, Templeton, & Johnston, 2000; Henderson & Templeton, 1986; Invernizzi, Abouzeid, & Gill, 1994). This part of the lesson lasted approximately 10–15 minutes. Typical activities included picture, word, and writing sorts of common long vowel patterns (e.g., hot vs. rope vs. float). Words were typically selected from the stories they read during the fluency section of the lesson. Using these words gave the students practice reading the words in and out of context. Students also had opportunities to find these patterns in other words in their books. Additional phonics activities used included one-minute word drills, making words with letter tiles, and reading flipbooks.

The purpose of the reading and writing component of the lesson was to improve students' decoding and comprehension of instructional level material and to develop students' written expression as a tool for communication. This was the main focus of the lesson and lasted 20–30 minutes. This part of the lesson was divided into before-, during-, and after-reading activities (Tierney, Readence, & Dishner, 1995; Yopp & Yopp, 1996). Before reading, tutors activated students' prior knowledge and taught concepts related to the topics or the text structures in their books. During reading, the tutors scaffolded the student's decoding and comprehension of the material. After reading, the student reflected or expanded on the information encountered in the text. Students used many strategies throughout this part of the lesson and wrote in response to their reading. For example, they participated in Directed Reading-Thinking Activities (Stauffer, 1970), completed graphic organizers, and examined text structures and features (e.g., bold headings

and italicized words). To further develop students' vocabulary and comprehension skills, they used concept sorts and word maps.

To provide additional reading practice at home, the students selected a familiar book at the end of each lesson to share with their families. All children participated in this activity by checking out and returning books twice a week.

Training

All of the tutors received initial and ongoing training. Two graduate students in reading education apprenticed to become Book Buddies II site coordinators and earned FWS funds for supervising community volunteers and writing lesson plans. The apprentice coordinators received instruction in their required reading classes and on-site mentoring from two experienced Book Buddies coordinators at the intervention schools. Additionally, tutors and apprenticing coordinators participated in two interactive workshops led by experienced Book Buddies coordinators.

Results

The results of the Book Buddies assessments across time are presented in Table 3.

Both groups made progress during the year on basic measures of alphabet knowledge, phoneme-grapheme knowledge, word list reading, and contextual reading. Group comparisons yielded no significant differences, although group means are higher for the treatment group on every measure.

Outcome Measures

Our major outcome measures included the WRAT-R, graded word lists, and passages from the QRI-II. We conducted t-tests of the group means on these variables. Levene's test indicated that the results may be discussed with confidence of equal variance. There were no significant differences between the during school and after school tutoring groups.

WRAT-R

Table 3 indicates that the treatment group achieved a higher mean score on the WRAT-R than the control group. The Book Buddies II group's mean raw score of 58 is equal to an end-of-year second-grade equivalent (Jastak & Wilkinson, 1984). In contrast, the control group's mean raw score of 52 is equal to a mid-second-grade equivalent. Although children in Book Buddies II demonstrated greater gains in reading, a t-test failed to reveal statistical differences between the groups' scores on the WRAT-R (t [24] = 1.73, p = .096).

Table 3: Outcome Measures

Measures	Group	*N*	*M*	*SD*	*t*	*df*	Sig. (2-tailed)
Letter Identification	treatment	13	26.00	.00	1.48	24	.15
	control	13	25.85	.38			
Letter Sounds	treatment	13	25.85	.38	1.91	24	.07
	control	13	24.00	3.46			
Spelling	treatment	13	46.77	2.05	2.17	24	.04
	control	13	44.31	3.54			
Medial Vowel Sorting	treatment	13	12.00	.00	1.47	24	.15
	control	13	11.54	1.13			
Word Identification—Preprimer	treatment	13	20.00	.00	1.47	24	.15
	control	13	19.85	.38			
Word Identification—Primer	treatment	13	19.85	.38	1.66	24	.11
	control	13	19.31	1.11			
Word Identification—1st	treatment	13	18.85	1.34	1.74	24	.10
	control	13	17.31	2.90			
Word Identification—2nd	treatment	13	12.92	3.95	1.61	24	.12
	control	13	9.77	5.88			
Word Identification—3rd	treatment	13	5.46	7.61	.99	24	.33
	control	13	2.85	5.71			
WRAT-R	treatment	13	58.00	11.47	1.73	24	.10
	control	13	51.54	7.05			
Passage Reading—Primer	treatment	13	60.92	1.12	.76	24	.46
	control	13	60.46	1.90			
Passage Reading—1st	treatment	13	88.31	2.72	1.14	24	.27
	control	13	86.46	5.16			
Passage Reading—2nd	treatment	13	189.00	4.86	.66	21	.52
	control	10	187.50	6.04			
Passage Reading—3rd	treatment	13	245.38	8.20	.03	19	.97
	control	8	245.50	7.31			

Graded Word Lists

All participants read words from the second-grade word list. As shown in Table 3, the treatment group achieved a higher mean raw score than the control group. Although the treatment group's means were higher, a *t*-test failed to reveal statistical differences between the treatment and control groups' scores on the second grade word list (t [24] = 1.61, p = .121). Despite this lack of statistical significance, 38.5% of the Book Buddies II students read the second-grade word lists from the QRI-II at 70% or better, in comparison to 23% of the control group.

QRI-II

Participants read two expository passages at the first- and second-grade level. All children in Book Buddies II read both the first- and second-grade passages at 90% or better, whereas only 10 of the 13 children in the control group could read both passages at 90% or better (see Table 3). Additionally, 12 out of the 13 Book Buddies II children read the third-grade passage at 90% or better. In contrast, only eight students in the control group read the third grade passage with instructional level accuracy. A t-test failed to reveal a statistical difference between the two group's reading performances on the first-, second-, and third-grade passages respectively (t[24] = 1.14, p = .27; t [21] = .66, p = .52; and t [19] = -.03, p = .97).

Discussion

Although we initially intended to conduct a controlled experimental study of the effects of a second year of one-on-one reading intervention, the constraints of working in schools with teachers and administrators who want what's best for their children made many variables within the research impossible to control. Nevertheless, this small, quasi-experimental study yielded results that are encouraging when one looks at the bottom line: Treatment group means were consistently higher than control group means across all outcome measures, although statistical tests yielded no significant differences. Letter and word recognition scores as measured by the WRAT-R approached significance ($p = .096$), despite the limitation of small sample size. Most importantly, every child in Book Buddies II was reading at or above grade level as measured by word list reading and contextual reading at the end of the intervention. Our results show that with two years of intensive intervention, all of the tutored children achieved grade-level expectations—an accomplishment not possible after only one year of one-on-one support.

These results reinforce the notion that schools can benefit from flexible, integrated systems of early intervention to address individual student needs throughout the elementary school years (Snow et al., 1998; Fountas & Pinnell, 1996). To borrow a popular saying from phonological awareness research, one year of intervention may be "necessary but not sufficient" for students to achieve grade-level expectations in reading.

The study yielded benefits for both the tutored students and the FWS students participating in the America Reads program. Book Buddies II provided quality, supplemental instruction for weak second-grade readers, all of whom were reading on or above a late-second-grade level at the end of the year. FWS students received systematic training in early reading instruction and practiced applying their newly acquired skills in the community under careful supervision. This is exactly the kind of clinical training essential to creating reflective practitioners who are skilled at differentiating instruction for struggling readers. In addition, the FWS apprentice coordinators received on-site training on a daily basis in the art of supervising adults and colleagues as they worked with the lowest readers in the second grade. They learned firsthand how to provide specific feedback regarding instructional techniques, how to intervene effectively, and how to model strategies. Imagine the possibilities if the reading specialist in every school were able to do the same.

While further research is needed using larger sample sizes with random assignment to treatment and control groups, the preliminary findings of this study give heart to the hope that the "treatment resisters" from first-grade intervention programs can benefit from an additional year of one-on-one instruction. If this is the case, we could very well reduce the number of children who do not read on grade level after one year of intervention to a much smaller number by providing a second year of intervention during the second grade.

Future studies of cross-grade interventions may want to examine the use of multiple, parallel interventions, and whether the timing of their delivery yields differential student outcomes. Although we collected data on student

reading levels using both qualitative and quantitative measures, further studies should also include measures of children's reading rate, comprehension, and additional measures of fluency beyond accuracy alone. The added year of one-on-one support may have enabled students to solidify their orthographic knowledge to a level of automaticity that facilitated reading with greater speed, expression, and understanding. If this is the case, then expectations of end-of-year first grade reading achievement based on accuracy of oral reading alone may be insufficient to ensure the stability of early intervention gain.

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Appendix A. Sample Lesson Plan

Student:_____ Tutor:_____ Date:_____ Lesson #:_____			
Lesson plan	Description of activities	Time	Comments
Reading for Fluency		5–10 min.	
Word Study	Word Hunt: Picture Sort and/or Word Sort: Writing Sort: Word Play Sound Sheet:	10–15 min.	
Reading and Writing	Before Reading: During Reading: After Reading:	20–30 min.	

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